

*AMENDMENTS TO THE CLAIMS*

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A wavelength converting laser device, comprising:  
~~a broad-area laser diode~~ light producing unit producing laser light, ~~the laser diode including a slab optical waveguide structure controlling vertical transverse mode of the laser light;~~  
an optical resonator having facing first and second reflectors, ~~one of the first and second reflectors comprising a reflecting surface having a shape reducing loss in the optical resonator, with regard to a specific horizontal transverse mode of the laser light, as compared to the loss in the optical resonator for other horizontal transverse modes; and~~  
a wavelength converter ~~for~~ disposed within the optical resonator and converting the laser light into harmonic light, the wavelength converter including a slab optical waveguide structure controlling vertical transverse mode of the laser light and controlling vertical transverse mode of the harmonic light.

2. (Currently Amended) The wavelength converting laser device of Claim ~~4~~ 22, wherein the reflecting surface is substantially the same shape as a wavefront of the laser light.

3. (Currently Amended) The wavelength converting laser device of Claim 1, wherein one of the facing first and second reflectors includes a distributed-reflectance-Bragg-grating-reflector integral with the ~~laser diode~~ light producing unit.

4. (Currently Amended) The wavelength converting laser device of Claim ~~4~~ 22, wherein one of the first and second reflectors includes a coating on a facet of the wavelength converter having a curved surface shape that is convex toward a direction outside of the optical resonator.

5. (Currently Amended) The wavelength converting laser device of Claim ~~4~~ 22, wherein one of the facing first and second reflectors includes a distributed-reflectance-Bragg-grating-reflector integral with the wavelength converter.

Claims 6 and 7 (Cancelled).

8. (Currently Amended) The wavelength converting laser device of Claim ~~4~~ 22, wherein the wavelength converter is a quasi-phase matching-wavelength converter having a periodically domain-inversed structure.

9. (Previously Presented) The wavelength converting laser device of Claim 8, wherein the periodically domain-inversed structure has a shape substantially the same as a wavefront of the laser light.

10. (Currently Amended) The wavelength converting laser device of Claim ~~4~~ 22, wherein the wavelength converter includes a  $\text{MgO}:\text{LiNbO}_3$  crystal having a z-axis substantially aligned with a polarization direction of the laser.

Claim 11 (Cancelled).

12. (Currently Amended) The wavelength converting laser device of Claim 1, wherein the optical resonator, the laser-diode light producing unit, and the wavelength converter are integrated.

13. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising a third reflector, for reflecting the harmonic light, disposed between the laser-diode light producing unit and the wavelength converter.

14. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising transverse mode converting means for reducing mode mismatching between a vertical transverse mode of the laser light in the laser-diode light producing unit and a vertical transverse mode of the laser light in the wavelength converter.

15. (Currently Amended) The wavelength converting laser device of Claim 1, further comprising temperature control means for controlling temperature of the laser-diode light producing unit and temperature of the wavelength converter.

16. (Currently Amended) The wavelength converting laser device of Claim 1, wherein a ratio of a wavelength-shift to temperature change at a lasing wavelength of the laser light of the laser-diode light producing unit is substantially the same as a ratio of a wavelength-shift to temperature change at a phase matching wavelength of the laser light of the wavelength converter.

17. (Currently Amended) A display device, comprising:

~~a broad-area laser-diode light source producing laser light, the laser-diode including a slab optical waveguide structure controlling vertical transverse mode of the laser light;~~

~~an optical resonator having facing first and second reflectors, one of the first and second reflectors comprising a reflecting surface having a shape reducing loss in the optical resonator, with regard to a specific horizontal transverse mode of the and in which the light resonates to produce laser light, as compared to the loss in the optical resonator for other horizontal transverse modes; and~~

a wavelength converter ~~for disposed within the resonator and~~ converting the laser light into harmonic light, the wavelength converter including a slab optical waveguide structure controlling vertical transverse mode of the laser light and controlling vertical transverse mode of the harmonic light, wherein ~~the laser diode and the wavelength-converting laser device are a~~ converter produces light source for generating an image.

18. (Previously Presented) The display device of Claim 17, wherein the light source for generating an image is a source of green light.

19. (Previously Presented) The display device of Claim 17, wherein the light source for generating an image is a source of blue light.

20. (Previously Presented) The display device of Claim 17, further comprising a liquid crystal material as optical modulating means for generating an image.

21. (Previously Presented) The display device of Claim 17, further comprising digital reflecting means as optical modulating means for generating an image.

22. (New) A wavelength converting laser device comprising:  
an optical resonator having facing first and second resonators and in which light resonates to produce laser light; and  
a wavelength converter disposed within the optical resonator and converting the laser light into harmonic light, the wavelength converter including a slab optical waveguide structure controlling vertical transverse mode of the laser light and controlling vertical transverse mode of the harmonic light.